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APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
10/037,697	11/09/2001	Roy C. Krohn	KRO 0128 PUS	7566

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EXAMINER
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BERMAN, SUSAN W

ART UNIT	PAPER NUMBER
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1711

DATE MAILED: 01/09/2004

Please find below and/or attached an Office communication concerning this application or proceeding.

# Office Action Summary

Applicati n N .

10/037,697

Applicant(s)

KROHN ET AL.

Examiner

Susan W Berman

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-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

## Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If the period for reply specified above is less than thirty (30) days, a reply within the statutory minimum of thirty (30) days will be considered timely.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133).
- Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

## Status

- 1) ☒ Responsive to communication(s) filed on 23 November 2003.
- 2a) ☐ This action is FINAL. 2b) ☒ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

## Disposition of Claims

- 4) ☒ Claim(s) 1-71 is/are pending in the application.
- 4a) Of the above claim(s) 65-71 is/are withdrawn from consideration.
- 5) ☒ Claim(s) 64 is/are allowed.
- 6) ☒ Claim(s) 1,2 and 17-20 is/are rejected.
- 7) ☒ Claim(s) 3-16 and 21-63 is/are objected to.
- 8) ☐ Claim(s) \_\_\_\_\_ are subject to restriction and/or election requirement.

## Application Papers

- 9) ☒ The specification is objected to by the Examiner.
- 10) ☒ The drawing(s) filed on 09 November 2001 is/are: a) ☒ accepted or b) ☐ objected to by the Examiner.
- Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).
- 11) ☐ The proposed drawing correction filed on \_\_\_\_\_ is: a) ☐ approved b) ☐ disapproved by the Examiner.
- If approved, corrected drawings are required in reply to this Office action.
- 12) ☐ The oath or declaration is objected to by the Examiner.

## Priority under 35 U.S.C. §§ 119 and 120

- 13) ☐ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
- a) ☐ All b) ☐ Some \* c) ☒ None of:
1. ☐ Certified copies of the priority documents have been received.
2. ☐ Certified copies of the priority documents have been received in Application No. \_\_\_\_\_.
3. ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).
- \* See the attached detailed Office action for a list of the certified copies not received.
- 14) ☒ Acknowledgment is made of a claim for domestic priority under 35 U.S.C. § 119(e) (to a provisional application).
- a) ☐ The translation of the foreign language provisional application has been received.
- 15) ☒ Acknowledgment is made of a claim for domestic priority under 35 U.S.C. §§ 120 and/or 121.

## Attachment(s)

- 1) ☒ Notice of References Cited (PTO-892)
- 2) ☐ Notice of Draftsperson's Patent Drawing Review (PTO-948)
- 3) ☐ Information Disclosure Statement(s) (PTO-1449) Paper No(s) \_\_\_\_\_
- 4) ☐ Interview Summary (PTO-413) Paper No(s). \_\_\_\_\_
- 5) ☐ Notice of Informal Patent Application (PTO-152)
- 6) ☐ Other:

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***Election/Restriction***

Applicant's election without traverse of Group I, claims 1-64, is acknowledged. Applicant's election of the species of EL composition, dielectric composition, opaque conductive composition and transparent conductive composition set forth on page 2 of the remarks is acknowledged. Claims 1-64 read on the elected species.

Claims 65-71 are withdrawn from prosecution as being drawn to a non-elected invention.

***Specification***

The specification is objected to as failing to provide proper antecedent basis for the claimed subject matter. See 37 CFR 1.75(d)(1) and MPEP § 608.01(o). Correction of the following is required: The examiner has not found any corresponding disclosure of the claim 20 recitation of applying an opaque conductive composition capable of being cured in a transparent conductive layer when irradiated with UV light.

***Claim Rejections - 35 USC § 102***

The following is a quotation of the appropriate paragraphs of 35 U.S.C. 102 that form the basis for the rejections under this section made in this Office action:

A person shall be entitled to a patent unless –

(b) the invention was patented or described in a printed publication in this or a foreign country or in public use or on sale in this country, more than one year prior to the date of application for patent in the United States.

Claim 1 is rejected under 35 U.S.C. 102(b) as being anticipated by WO 96/22005 (see Etzbach et al (5,922,481)). WO '005 discloses an electroluminescent article containing at least one layer obtained by thermal or radiation-induced crosslinking of a composition containing a crosslinkable charge-transporting compound and a crosslinkable fluorescent compound. See US '481: column 1, lines 26-48, column 2, lines 43-67, column 3, lines 1-43, column 14, lines 44-54, and the Example.

Claim 1, 2 and 17-20 are rejected under 35 U.S.C. 102(b) as being anticipated by deSouza (4,684,353). deSouza discloses a flexible EL film laminate comprising a layer of resin containing EL phosphor. Example 6 discloses a UV curable resin and UV curing. DeSouza teaches that the preferred resin is UV curable polyester resin (column 12, lines 44-48). See Figures 1 and 2, the method described in columns 3-5, and column 12, line 49, to column 13, line 19.

*Claim Rejections - 35 USC § 103*

The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

(a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negated by the manner in which the invention was made.

Claims 1, 2 and 17-20 are rejected under 35 U.S.C. 103(a) as being unpatentable over deSouza (4,684,353). deSouza discloses a flexible EL film laminate comprising a layer of resin containing EL phosphor. Example 6 discloses a UV curable resin and UV curing. deSouza teaches that the preferred resin is UV curable polyester resin (column 12, lines 44-48). See Figures 1 and 2, the method described in columns 3-5, and column 12, line 49, to column 13, line 19. deSouza discloses a transparent front electrode and a silver (or other metal) back electrode. The transparent conductive composition disclosed by applicant can contain silver powder (page 39). It would have been obvious to one skilled in the art at the time of the invention to employ a transparent electrode as both conductive electrodes in the EL lamp taught by deSouza. One of ordinary skill in the art at the time of the invention would have been motivated by a reasonable expectation of success in providing a useful EL lamp.

*Allowable Subject Matter*

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Claims 3-16, 21-39, 40-63 are objected to as being dependent upon a rejected base claim, but would be allowable if rewritten in independent form including all of the limitations of the base claim and any intervening claims. With respect to claims 3-16, the cited art does not teach or suggest the instantly claimed method wherein isobornyl acrylate is required as the acrylate monomer. With respect to claims 21-39, the prior art does not teach or suggest the method of claim 2 wherein the conductive layer is made by UV curing an opaque conductive composition as set forth in claim 21 into a transparent conductive layer. With respect to claim 40-47, the cited prior art does not teach a method employing a UV curable dielectric composition. With respect to claim 48-62, the cited prior art does not teach a method employing a UV curable conductive composition. With respect to claim 63, the cited prior art does not teach a method employing a UV curable clear coat composition.

Claim 64 is allowed. The prior art of record and otherwise known to the examiner does not teach or suggest a method comprising each of the steps set forth in claim 64 wherein each composition employed is cured by exposure to UV light.

### *Conclusion*

The prior art made of record and not relied upon is considered pertinent to applicant's disclosure.

Van Havenbergh et al (6,120,902, filed 04-21-1992) disclose a luminescent article having a radiation-cured coating on top of a phosphor-containing layer. See the Abstract, column 3, lines 3-10 and lines 41-59, column 4, lines 15-22, column 5, line 32, to column 7, line 65, column 10, lines 14-26, column 11, line 59, to column 12, line 16, column 13, lines 5-24. Van Havenbergh et al do not teach EL lamps or UV curable compositions containing a phosphor.

Karam et al (5,273,774) teach copper- and/or manganese-activated zinc sulfide electroluminescent phosphor particles for use in EL lamps. See column 3, lines 3-31, and column 5, lines 1-17.

Lu et al (4,188,449) disclose phosphorescent screens useful as intensifying screens comprising a support coated with a layer of finely divided particles of a phosphor dispersed in a polymeric binder that has been cured by radiation. See column 2, lines 14-40, column 3, lines 28-46, column 4, line 11, to column 5, line 61, column 6, lines 22-68, column 7, lines 61-68. Lu et al do not teach a method for forming an EL lamp.

Arakawa et al (4,855,191) disclose radiation image converting materials comprising a support and a phosphor layer comprising a phosphor dispersed in a binder provided with an electrically conductive polymer layer. The binder is a non-radiation curable binder. Solvent is added to the phosphor and binder to provide a coating dispersion. See the Abstract, column 2, lines 15-37, column 5, lines 6-16, column 6, lines 11-39, columns 7-10.

Tanabe et al (6,010,742) disclose an electroluminescent lighting element comprising a photo-hardenable or thermal-hardening insulating binder resin mixed with a conductive powder. Tanabe et al teach screen printing for laminating the layers in predetermined patterns (column 3, lines 39-44, and column 4, lines 28-60). Photohardening compositions for fabricating transparent electrode pastes are taught in column 8, lines 31-42.

Janusauskas (5,976,613) discloses a method of making an EL lamp and that the use of a common binder for both phosphor layer and adjacent dielectric layers reduces lamp failure due to localized heating. Individually coated phosphor particles are used to reduce moisture problems. Photocurable compositions are not mentioned. See column 3, line 46, to column 4, line 43.

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Any inquiry concerning this communication or earlier communications from the examiner should be directed to Susan W Berman whose telephone number is 571 273 1067. The examiner can normally be reached on M-F 9:30-6:00.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, James Seidleck can be reached on 703 308 2462. The fax phone number for the organization where this application or proceeding is assigned is (703) 872-9306.

Any inquiry of a general nature or relating to the status of this application or proceeding should be directed to the receptionist whose telephone number is 703 308 0661.



Susan W Berman  
Primary Examiner  
Art Unit 1711

SB  
12/28/03